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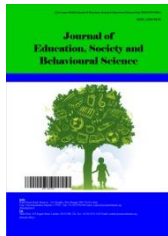
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Perception of Students and Lecturers on Students Centered Learning (SCL) in the College of Nursing and Midwifery Gombe Northern Nigeria

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Topmost among the 21st century innovations in pedagogy is the introduction of the constructivist approach in which students are afforded wide latitude of involvement in constructing, reconstructing and ascending a scaffold of knowledge based on student centered learning (SCL) approach. This study aimed to assess the perception of SCL introduced as a form of teaching and learning among students and lecturers in the College of Nursing and Midwifery, Gombe State, Nigeria. Employing a descriptive cross sectional study design and a purposive sampling technique, a sample of 117 students and 24 lecturers were drawn. Using an adapted SCL questionnaire, data collection was done from November to December, 2020 and was analyzed using SPSS (IBM) version 23 and result presented as means and percentages, while Pearson correlation and one-way ANOVA was used to present inferential statistics results. All statistical findings were considered significant at $p \geq 0.05$. Cronbach's alpha reliability score of at least 7.0 was achieved within each set of variables considered. Of the eight SCL components assessed, the most highly rated were role of lecturers (3.99 ± 0.7) and role of students (3.53 ± 0.6) while the least rated were obstacles (2.91 ± 0.9) and learning outcomes (2.95 ± 1.1). Three major obstacles to SCL identified in the study include: "in

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ability to cover the syllabus using SCL approaches" (3.04 ± 1.4); "lack of infrastructure for SCL in my school" (3.87 ± 1.1) and; "lack of guidelines for the SCL approach in my school" (3.13 ± 1.3). The study findings conclude that, despite the good perception of SCL in the college there are limitations to its full adoption. Therefore, it is recommended that online discussions, training of staff and provision of measures to ensure content coverage using SCL, provision of critical infrastructure and guidelines for SCL be prioritized by the management and other stakeholders.

Keywords: Assessment; students; learning; teachers/lecturers; college.

1. INTRODUCTION

Traditionally learning has been dominated by an instructional strategy whereby teachers take the centre stage in deciding goals, content, mode of delivery, assessment and outcomes of training, which is otherwise known as the teacher centered learning (TCL) [1]. This approach leaves the student in the position of a passive learner with limited control on learning, but to rely on the one-sided instructions, dictates and control of the teacher [2,3]. The approach, "has long been criticized for encouraging rote memorization and loading" of students with superfluous information that may hardly be of any use or application in real life [4]. Student-Centered Learning (SCL) approach represents both a mindset and culture within the setting of higher education institutions (HEIs) and is a learning approach which relate to, and is supported by, constructivist theories of learning [5]. It is normally characterized by innovative methods of teaching that is aimed at promoting learning through cooperation between teachers and other learners who are also considered to have active roles to play in their own learning by promoting transferable skills like problem-solving, critical and reflective thinking [5,6].

Hence, Student-centered learning (SCL) is a learning and teaching approach that places students at the centre of the learning process instead of the teacher and the content [6,7]. It recognizes that students have a wide range of opinions, abilities and strengths and in this sense, it empowers each learner to make their own choices about their education and future career [6]. It considers the needs, characteristics, abilities, interests and preferences of students, in decision-making process and encourages active participation [5,8]. These characteristics endeared the choice and preference of SCL over the traditional teacher centered (TCL) which tends to consider students as passive receptors of information that do not actively participate in their own learning process [6].

In Sub Sahara African (SSA) countries, especially Nigeria, the challenge of incorporating SCL in higher education institutions (HEIs) programmes ranges from issues of low-quality educational system, low level of pedagogical understanding among educators, large class sizes, demands of the curriculum, assessment challenges, and challenges related to infrastructure, to issues that borders on electricity and internet connectivity [9]. These in addition to the arrant adamant posture of some educators and policy makers of being averse to change from the traditional talk and chalk TCL approach to the more modern SCL strategy, constitute major impediments to the role-out of SCL even among the few HEIs who have demonstrated interest to buy into it [4,7,10].

According to Attard *et al*, some integral components of SCL include: flexibility and freedom in terms of the time and structure of learning; more and better quality teachers who strive to share their knowledge; clear understanding of students by teachers; flat hierarchy within higher education institutions; teacher responsibility for student empowerment; continuous ongoing improvement process; positive attitude by teachers and students with the aim of improving the learning experience; relationship of mutual assertiveness between students and teachers; and having focus on learning outcomes which enable genuine learning and deep understanding [5]. Hence, in the assessment of SCL nine key areas are crucial – these include: assessment of teaching methods, learning outcomes, goals, instructional strategies, assessment, role of lecturers, role of students, learning environment and obstacles [11].

As an innovative pedagogy, SCL was introduced into the College of Nursing and Midwifery Gombe in the first quarter of the year 2020. Although the term (SCL) has gained popularity in other places, it is relatively new to most Schools and Colleges of Nursing in Nigeria. However, in a bid to mainstream SCL, the Nursing and Midwifery

Council of Nigeria through the Women for Health trained its master trainers to implement it in HEIs under its purview. This study was designed to assess the perception of students and lecturers on the implementation of Students Centred Learning (SCL) in the College of Nursing and Midwifery Gombe Northern Nigeria.

2. METHODS

2.1 Background/Study Setting

The study was conducted within the college of nursing and midwifery Gombe which is located in Gombe metropolis, Nigeria. Gombe state is located between latitudes 9°30' and 12°30' N, longitudes 8°45' and 11°45' E. The college was established in the year 2005 to train nurses and midwives so as to help upscale the needed health human resource which at the moment is grossly inadequate with sub-optimal nurse-to-patients ratio compared to international standard; and to meet up with the UN SDG 3 in the state.

2.2 Study Design and Population

Descriptive cross-sectional study was used to measure participants' perception and assess students and facilitators' opinion around SCL incorporation in the programme delivery. To achieve this, 492 students enrolled on the three programmes of study within the college and 70 academic/teaching staff of the college, were invited to take part in the study; of this number 141 comprising 117 (23.8%) students and 24 (34.3%) academic staff completed the survey instrument informed the study outcome.

2.3 Sample Size and Sampling Technique

A minimum sample size of 133 was determined using the statcal feature of the epiinfo 7 CDC software. The various parameters entered on Statcal mode include the following;

- Population size = 562
- Expected frequency of SCL uptake among students and teachers/lecturers based on anecdotal evidence = 13%
- Acceptable margin of error = 5% = 0.05
- Design effect = 1.0
- Expected number of students per cluster for each of the 3 arms of the programmes of study = 34 plus 24 lecturers

And these parameters yielded an estimated minimum sample size of 136. However, at the

end of the data collection a total of 141 completed instruments retrieved were found usable. These comprised 24 from lecturers and 117 from students across the three arms of study programmes.

Non-probability purposive sampling technique was employed to select the study participants.

2.4 Data Collection Instrument

The questionnaire was adopted from Attard, et al [5] previously used to measure Student-Centered Learning. A five-point Likert scale were 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; and 5 = strongly agree for all but teaching method where four-point Likert-type scale with 1 = never, 2 = sometimes, 3 = often, and 4 = frequently were used to measure participants response. The data collection instrument comprised of sixty-two items grouped into eight (8) sections described below:

- Section 1: Assessment of Teaching Method (13 items)
- Section 2: Learning Outcomes (7 items)
- Section 3: Instructional Strategies (6 items)
- Section 4: Assessment format (7 items)
- Section 5: Lecturers/Facilitators role (10 items)
- Section 6: Students role (6 items)
- Section 7: Learning Environment (6 items)
- Section 8: Obstacles (7 items)

2.5 Data Collection

Students studying Basic Nursing, Basic midwifery and post basic nursing programmes were randomly invited to take part in the study. To encourage participation and eliminate cohesion, each group class representatives were briefed on the study rationale and was provided with copies of the questionnaire to help distribute among peers. Each was allowed two days to either partake or decline from participating in the survey. In addition, to encourage staff participation approval was secured from the heads of departments (HoDs) where official circular was provided to inform the staff about the study rationale and solicited for their participation. Exclusion criteria considered include; being first year student who had only enrolled and had limited time to adapt to the SCL approach prior to the commencement of the survey. In addition, nonacademic staff were excluded, as they have no teaching engagement with the students. The administration and

retrieval of completed questionnaires were done between November and December, 2020.

2.6 Data Analysis

Data analysis was conducted using IBM SPSS version 23 software. To describe the basic features of data, descriptive data analysis was performed and provided an overview of output for all variables. The sixty two items were later grouped and averaged according to the 8 selected SCL assessment categories which include: assessment of teaching method, learning outcomes, instructional strategies, assessment, role of lecturers, role of students, learning environment and obstacles. To ascertain the reliability of the instrument Cronbach's Alpha reliability tests was done first for each of the categories and thereafter for the overall pool of the items. The mean and standard deviation of all the 62 items and the 8 selected SCL assessment categories were computed. Correlation matrix and one-way ANOVA tables were constructed according to the various SCL assessment tool groupings while computations of Likert scale means and proportions of responses were undertaken. Correlations and means values were considered significant at $p < 0.05$.

3. RESULTS

To assess internal reliability of the questionnaire, Cronbach's alpha of > 0.70 was considered satisfactory [12]. The overall reliability score of the research instrument was 0.82 while each of the 8 SCL components yielded a reliability test result of ≥ 0.7 on the same scale (Table 1).

Table 2 present correlation matrix among the participants. The result suggest both students and teachers had above average ratings across all 8 SCL assessment categories. Lecturers/facilitators had the highest mean score ($M=3.99$, $SD=0.7$) and was followed by students role ($M= 3.53$, $SD= 0.6$). On the contrary both obstacles to implementation of SCL ($M= 2.91$, $SD=0.9$) and learning outcomes ($M=2.95$, $SD= 1.1$) had lowest mean scores respectively. Result from the correlation matrix for all the 8 components of SCL assessment suggest that instructional strategy correlates strongly with assessment $r(139) = .721$, $p < .001$, lecturers/facilitators role $r(22) = .570$, $p < .001$, and students role $r(115) = .710$, $p < .001$. On the other hand, the correlation between assessment of teaching methods were significant with learning outcomes $r(139) = .244$, $p < .05$,

instructional strategies $r(22) = .742$, $p < .001$ and learning environment $r(139) = .295$, $p < .05$ respectively. In general, the results suggest that with the right-learning environment both learners and the facilitators tend to align themselves to the introduction of SCL as better approach for teaching and learning.

Table 3 shows the correlation among the participants' assessment of teaching and learning methods. Across the 13 items tested, there was varied perceived degree of correlation between the various teachings methods. Inquiry based learning had significant correlation with case study $r(143) = .248$, $p < .001$, cooperative learning approach $r(140) = .240$, $p < .001$, classroom discussion $r(140) = .244$, $p < .001$, discovery learning $r(138) = .240$, $p < .001$ and role play $r(136) = .192$, $p < .05$ respectively. Although there were no significant correlation between cooperative learning (student groups working together to solve a problem or complete a task) and the other teaching methods, both teachers and students rated it as the more frequently used than all the other teaching methods ($M= 2.89$, $SD=1.0$). Online discussion ($M=1.92$, $SD= 0.9$) was adjudged to be least used and had marginally positive correlation with class discussion $r(140) = .354$, $p < .001$. Another less frequently used method was role-play (1.93 ± 0.8) and had weak correlation with Lecture-discussion approach $r(141) = .197$, $p < .05$, Case Studies $r(110) = .231$, $p < .05$ and online discussion $r(132) = .191$, $p < .05$ (Table 3).

Table 4 show the mean score and standard deviation of the 7 items considered to measure participants' assessment of learning outcomes clarity. Students response on this subject shows they gain more self-confidence based on provision of clear learning outcomes ($M = 3.26$, $SD = 1.3$). In addition, there was great sense of satisfaction when students are able to express their opinions during taught session ($M = 3.54$, $SD = 1.3$) while students expressed less confidence in making sense of information better based on SCL teaching approach adopted ($M = 2.64$, $SD=1.3$). Review of participants' response revealed higher proportion of the students and teachers tended to agree that students gain more self-confidence through SCL (52.5%) as 65.2% said students are able to express their opinions and engage with learning more effectively. Result of instructional strategies adopted shows lecturers were more inclined to agree (58.3%) that they provide transparent procedures for

students to be able to provide feedback on the quality of the educational process ($M = 3.46$, $SD = 0.9$) whereas 39.1% of teachers disagree that “I consult with students on the evaluation methods used” ($M = 2.65$, $SD = 0.9$), Table 4.

Table 5 present correlation matrix results for measured items on roles played by lecturers in the delivery of SCL approach adopted. Lecturer's ability to stimulate discussion among student was found to have high positive correlations between acting as a facilitator $r(23) = .745$, $p < .001$, providing opportunity for group work during teaching session $r(23) = .603$, $p < .001$ and open for student opinion to improve learning process $r(23) = .821$, $p < .001$ respectively. Although lecturers expressed high level of agreement across all items a closer look at each item shows response to questions that include “I act as a facilitator” has a mean (M) and standard deviation (SD) value of 4.04 ± 1.1 . Also, “I provide the opportunity for group work” return high mean and standard deviation values of 4.00 ± 1.0 as well as another question “I actively listen and respect to student” ($M = 4.22$, $SD = 0.8$ respectively. Overall, there were significant correlations between the adoption of case study in delivery of learning and all 8 but one item “I provide multiple means of accessing information” (Table 5).

Table 6 present assessment component measured across 9 items. The result shows lecturers exhibited stronger agreement to the assertions that: assessment is an integral part of learning in my teaching practice ($M = 4.23$, $SD = 1.2$), I assess students based on their ability to apply knowledge ($M = 3.74$, $SD = 1.2$), I use the real life situations in the assessment of students ($M = 3.77$, $SD = 1.0$); with 86.3%, 73.9% and 72.7% of them indicating so respectively (Table 6). On the contrary, 80.0% of the lecturers either had negative stand or were neutral on the statement that “I use peer-assessment as a

method for student assessment” ($M = 2.60$, $SD = 0.9$). In the same vein, result of role of lecturers in facilitating SCL shows, over 80.0% of the lecturers expressed different degrees of agreement with the following assertions: I act as a facilitator ($M = 4.04$, $SD = 1.1$), I provide the opportunity for group work ($M = 4.00$, $SD = 1.0$), I actively listen and respect students' points of view ($M = 4.22$, $SD = 0.8$), I stimulate cooperation among students ($M = 4.00$, $SD = 0.9$), and I challenge and motivate students ($M = 4.09$, $SD = 0.8$).

Table 7 present outcomes for instructional Strategies adopted in SCL delivery as well as obstacles considered among the participants that impede on SCL adaptation. The result reveal lecturers' high mean value ($M = 3.17$, $SD = 1.2$) for staff response on “I consult with students on the teaching methods used” and there are transparent procedures in place for students to be able to give feedback on the quality of the educational process ($M = 3.46$, $SD = 0.9$). In addition, lecturers were more inclined to agree with especially two items, namely; my students ask questions in class ($M = 3.74$, $SD = 0.9$) and my students work in collaboration with other classmates ($M = 3.59$, $SD = 1.1$). Results for learning environment items measured exhibited significant correlation across the items measured. In addition, there was relatively higher means value across the items. These include: Information technology is used within the learning process ($M = 3.53$, $SD = 1.1$) and “genuine interaction exist between me and my students” ($M = 3.29$, $SD = 1.1$). Furthermore, result for perceived obstacles around SCL implementation shows students have negative attitudes toward SCL with “it is difficult to evaluate students using the SCL approach” ($r(21) = .592$, $P < .001$) and “I can't use SCL approaches when teaching large classes” correlated well with “students have negative attitudes toward SCL” ($r(21) = .563$, $p < .05$) Table 7.

Table 1. Number of Items, Cronbach's Alpha and means across the eight SCL domains

	SCL Thematic area	No of Items	Cronbach's Alpha
1	Assessment of Teaching Method	13	0.754
2	Learning Outcomes	7	0.906
3	Instructional Strategies	6	0.709
4	Assessment	7	0.720
5	Lecturers//Facilitators role	10	0.946
6	Students role	6	0.770
7	Learning Environment	6	0.740
8	Obstacles	7	0.828
	Overall	62	0.825

Table 2. Correlation Matrix showing Pearson's r for SCL Assessments

Various SCL Thematic Areas/ Domains	1	2	3	4	5	6	7	8	9	Mean±SD
1. Assessment of Teaching Method	1									2.39±0.5
2. Learning Outcomes	.244*	1								2.95±1.1
3. Instructional Strategies	.742**	.343	1							3.04±0.7
4. Assessment	.531	.345	.721**	1						3.41±0.6
5. Role of Lecture	-.011	.298	.570**	.807**	1					3.99±0.7
6. Role of Students	.453	.319	.710**	.806**	.554*	1				3.53±0.6
7. Learning Environment	.295*	.485**	.276	.659**	.702**	.633**	1			3.31±0.7
8. Obstacles	.418	-.423	.279	.436	.330	.122	.196	1		2.91±0.9
9. Overall	.718*	-.216	.752*	.937**	.565	.529	.312	.588	1	3.34±0.3

* $p < .05$, ** $p < .001$

Table 3. Correlation matrix and means for assessment of teaching method items (BOTH Students and Teachers)

Statement/Item	N	1	2	3	4	5	6	7	8	9	10	11	12	13	Mean±SD
1. Lecture delivery	141	1													2.39±0.9
2. Lecture-Discussion	141	.385**	1												2.44±0.9
3. Case Studies	110	.087	-.023	1											2.05±0.9
4. Cooperative learning	140	-.136	-.054	-.006	1										2.89±1.0
5. Class Discussion	140	.033	.036	.010	.400**	1									2.87±1.0
6. Online Discussion	132	-.023	.010	-.054	.136	.354**	1								1.92±0.9
7. Discovery Learning	138	-.040	.147	.343**	.179*	.224**	.135	1							2.11±0.8
8. Learning Centres	138	-.221**	-.031	.088	.384**	.392**	.285**	.264**	1						2.76±0.9
9. Role-Play	136	.138	.197*	.231*	.020	.093	.191*	.111	.118	1					1.93±0.8
10. Inquiry learning	143	.051	.048	.248**	.240**	.244**	-.048	.240**	.402**	.196*	1				2.46±0.9
11. Simulations	134	.118	-.016	.190	.106	.195*	.096	.079	.248**	.175*	.212*	1			2.04±1.0
12. Scaffolding	140	.022	.083	-.014	.332**	.262**	.007	.100	.372**	.100	.379**	.195*	1		2.33±0.9
13. Know-what to know Learn	140	.041	-.006	.203*	.206*	.289**	.078	.097	.312**	.195*	.301**	.357**	.427**	1	2.46±0.9

* $p < .05$, ** $p < .001$

Table 4. Assessment of learning outcomes and instructional strategies

Learning Outcomes (Students and Teachers)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean±SD
I feel motivated to learn through SCL approach	31.2	14.2	17.7	25.5	11.3	2.72±1.4
I remember the information better through SCL	29.8	19.1	14.2	25.5	11.3	2.70±1.4
I can link information together better through SCL	25.0	26.4	17.9	20.7	10	2.64±1.3
I form the ideas with more confidence with the SCL approach	20.7	17.1	23.6	30	8.6	2.89±1.3
I gain more self-confidence through SCL	12.8	17	17.7	36.2	16.3	3.26±1.3
I can express their opinions	12.3	8	14.5	43.5	21.7	3.54±1.3
SCL approaches lead to improvements in my performance	22.9	17.9	22.9	25	11.4	2.84±1.3
Instructional Strategies (n=24)						
The goals of the learning process are agreed upon between students and facilitators	12.5	37.5	20.8	20.8	8.3	2.75±1.2
I consult with students on curriculum content	16.7	29.2	16.7	25	12.5	2.88±1.3
I consult with students on the teaching methods used	8.7	26.1	13	43.5	8.7	3.17±1.2
I consult with students on the evaluation methods used	13	26.1	43.5	17.4	0.0	2.65±0.9
There are transparent procedures for students to give feedback on the teaching approach	0.0	20.8	20.8	50	8.3	3.46±0.9
Students are consulted using periodic programme quality reviews	8.3	25	41.7	25	0.0	2.83±0.9

Note: Result for Likert scale; strongly disagree – strongly agree are presented as percentage in the table

Table 5. Correlation matrix and means for role of lecturers items (Teachers only)

Items/Statements	N	1	2	3	4	5	6	7	8	9	Mean±SD
1. I provide multiple means of accessing information	22	1									3.95±0.9
2. I act as a facilitator	23	.413	1								4.04±1.1
3. I provide the opportunity for group work	23	.466*	.792**	1							4.00±1.0
4. I actively listen and respect to student' opinion	23	.345	.836**	.743**	1						4.22±0.8
5. I stimulate discussion among students	23	.401	.745**	.603**	.821**	1					4.00±0.9
6. I challenge and motivate students	23	.071	.695**	.631**	.690**	.761**	1				4.09±0.8
7. I am open and empathetic toward students	23	.363	.578**	.655**	.712**	.651**	.600**	1			3.87±0.7
8. I use real-life problems to structure the subject matter	22	.343	.535*	.726**	.585**	.651**	.382	.569**	1		3.95±1.1
9. I use case study to structure the subject matter	23	.087	.590**	.647**	.530**	.417*	.553**	.334	.430*	1	3.43±0.8

* $p < .05$, ** $p < .001$

Table 6. Percentage response for assessment and role of lecturers in the introduction of SCL

Assessment (Teachers ONLY)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean±SD
1. Assessment as integral part of learning in my teaching practice	9.1	0.0	4.5	31.8	54.5	4.23±1.2
2. I assess students based on their ability to apply knowledge	8.7	8.7	8.7	47.8	26.1	3.74±1.2
3. I use projects in the assessment of students	0.0	21.7	39.1	34.8	4.3	3.22±0.9
4. I use simulation of tasks in the assessment of students	0.0	17.4	39.1	34.8	8.7	3.35±0.9
5. I use the real life situations in the assessment of students	4.5	4.5	18.2	54.5	18.2	3.77±1.0
6. I use self-assessment as a method for student assessment	13	13	8.7	52.2	13	3.39±1.3
7. I use peer-assessment as a method for student assessment	10	40	30	20	0.0	2.60±0.9
Role of Lecturers (Teachers ONLY)						
1. I provide multiple means of accessing information	0.0	13.6	0.0	63.6	22.7	3.95±0.9
2. I act as a facilitator	8.7	0.0	8.7	43.5	39.1	4.04±1.1
3. I provide the opportunity for group work	4.3	4.3	8.7	52.2	30.4	4.00±1.0
4. I actively listen and respect to student' points of view	0.0	4.3	8.7	47.8	39.1	4.22±0.8
5. I stimulate cooperation among students	0.0	13.0	0.0	60.9	26.1	4.00±0.9
6. I challenge and motivate students	0.0	8.7	0.0	65.2	26.1	4.09±0.8
7. I am open and empathetic toward students	0.0	4.3	17.4	65.2	13.0	3.87±0.7
8. I use real-life problems to structure the subject matter	4.5	9.1	4.5	50	31.8	3.95±1.1
9. I use case study to structure the subject matter	0.0	17.4	26.1	52.2	4.3	3.43±0.8
10. I help students to refine their understanding by using critical thinking skills	0.0	8.7	8.7	60.9	21.7	3.96±0.8

Table 7. Correlation matrix and means for instructional strategies, role of students, learning environment and obstacles

Instructional Strategies (Teachers ONLY)	1	2	3	4	5	6	7	Mean±SD
1. The goals of the learning process are agreed upon between me and my students	1							2.75±1.2
2. I consult with students on curriculum content	.530**	1						2.88±1.3
3. I consult with students on the teaching methods used	.386	.661**	1					3.17±1.2
4. I consult with students on the evaluation methods used	.455*	.137	.269	1				2.65±0.9
5. There are transparent procedures in place for students to provide feedback on the quality of the educational process	.344	.119	.081	.230	1			3.46±0.9
6. Students are consulted using periodic programme quality reviews	.199	.303	.150	.421*	.653**	1		2.83±0.9
Role of Students (Teachers ONLY)	1	2	3	4	5	6		
1. My students are active knowledge seekers	1							3.50±0.9
2. My students participate in class discussions	.236	1						3.52±1.0
3. My students ask questions in class.	.377	.564**	1					3.74±0.9
4. My students work in collaboration with other classmates.	.281	.577**	.335	1				3.59±1.1
5. My students participate in project groups to solve problem	.094	.076	-.170	.262	1			3.55±1.2
6. My students construct knowledge and meaning by interacting with me and by gathering data from different sources.	.421	.016	.268	-.102	.451*	1		3.22±1.0
Learning Environment (BOTH Students and teachers)	1	2	3	4	5	6		
1. Students have access to appropriate research and study facilities on campus.	1							3.18±1.4
2. Students have access to appropriate research and study facilities outside of campus	.391**	1						2.83±1.2
3. Information technology is used within the learning process	.352**	.264**	1					3.53±1.1
4. There is genuine interaction between me and my students	.425**	.404**	.393**	1				3.29±1.1
5. There is genuine interaction among my students	.409**	.345**	.316**	.347**	1			3.43±1.0
6. My class culture is cooperative, collaborative, and supportive	.293**	.200*	.222*	.326**	.442**	1		3.43±1.0
SCL implementation obstacles (Teachers Only, n=21)	1	2	3	4	5	6	7	
1. I can't cover the content in my syllabus using SCL approaches	1							3.04±1.4
2. I can't use SCL approaches when teaching large classes	.356	1						2.64±1.4
3. I lack experience using SCL	.042	.151	1					2.52±1.2
4. Students have negative attitudes toward SCL	.349	.563**	.345	1				2.95±1.5
5. It is difficult to evaluate students using the SCL approach	.529**	.462*	.099	.592**	1			2.35±1.1
6. There is lack of infrastructure for SCL in my school.	.155	.077	.340	.575**	.299	1		3.87±1.1
7. There are no guidelines for the SCL approach in my school	.273	.390	.278	.643**	.492*	.636**	1	3.13±1.3

* $p < .05$, ** $p < .001$

4. DISCUSSION

The research examined an innovative pedagogy, student Centered Learning (SCL), in the framework of the nursing education classroom. Based on previous research, SCL provide guides to learners in developing understanding using an interactive, social context and assists students to discover content through actively processing knowledge based on critical thinking approach and active reflection around their actions and understanding.

4.1 Comparison of the 8 SCL Assessment Components

Findings from the study revealed that both teachers and students of College of Nursing and Midwifery Gombe rated high the role of lecturers ($M= 3.99$, $SD=0.7$) in the delivery of SCL in addition all other components measured were considered above average towards successful facilitation of teaching and learning based on adopted SCL approach. This outcome agrees with earlier findings of Osman et al which showed higher perception among respondents on the role of lecturers in the successful facilitation of teaching and learning in higher education [11]. This was followed by role of students during the SCL delivery, while obstacles around SCL implementation had similar response ($M=2.91$, $SD=0.9$) and learning outcomes ($M=2.95$, $SD=1.1$) items. This is possibly due to the fact that under SCL, as a facilitator, the lecturer takes the leading role followed by the students who though are expected to be self-motivated to explore and take charge of their own developmental pace, needs to be guided by the lecturer [7].

This study revealed that instructional strategy correlated very well with assessment ($r = 0.721$), role of lecturers ($r = 0.570$), and role of students ($r = 0.710$). The outcome was not unexpected as instructional strategy largely depend on the role lecturers and students agree on and are expected to play in the instructional process, including the choice of the most suitable mode of assessment [4]. Again, assessment was found to highly correlate with role of lecturers ($r = 0.807$), role of students ($r = 0.806$), learning environment ($r = 0.659$) and overall estimated SCL ($r = 0.937$) components. The foregoing observation is concluded on the fact that in an ideal SCL setting, the methods of assessment are jointly determined by students and teachers as part of the learning process as well as the environment

in which the learning takes place [7]. The high correlation between assessment of teaching method and instructional strategies observed in the present study was not surprising as teaching methods and instructional strategies are aimed at making students take active role in learning, ensure synergistic processes, increase two-way interaction between students and teacher as well as make students take responsibility for their own learning [5]. Similarly, the learning environment correlated very well with the role of lecturers ($r = 0.702$) and the role of students ($r = 0.633$) considering that a favorable and conducive learning environment is achievable only by the participatory, supportive, collaborative and cooperative working relationship between teachers and students [13]. On the other hand, the relatively low correlation between assessment of teaching method and learning outcomes ($r = 0.244$) as well as learning environment ($r = 0.295$) was in tandem with the European students Union position on SCL components where it was earlier established outcomes are independent of mode or method of delivery and so also teaching method and the learning environment [14].

4.2 Assessment of Teaching Methods

The significantly low correlations observed between the 13 teachings method items (Table 3) demonstrates the degree of diversity among them. Both teachers and students rated cooperative learning (student groups working together to solve a problem or complete a task) as the most frequently ($M=2.89$, $SD=1.0$) used method than all the others. This finding is consistent with earlier report from Malaysia where respondents rated cooperative learning, lecture-discussion and lecture higher than the other teaching methods [11]. Online discussion ($M=1.92$, $SD=0.9$) was adjudged to be least used and was weakly correlated with class discussion. Another less frequently used method was role-play ($M=1.93$, $SD=0.8$) which also weakly correlates with lecture-discussion, case studies and online discussion. These findings also aligns with that of Osman et al [11] and reflects on the negating role of poor infrastructure, electricity and internet connectivity among others, as the bane of SCL implementation in Nigeria [9].

4.3 Learning Outcomes

Over a half (52.5%) of the students and teachers tended to agree that students gain more self-confidence through SCL while 65.2% of them

agree students can express their opinions effectively through the adoption of SCL approach. This outcome concurs with the basic tenet of SCL as expressed by Osman *et al* [11]. However, the study also portrays that a good proportion of the students disagreed with the assertion that they can link information together better through SCL (51.4%), and 45.5% are motivated to learn through SCL medium while 48.9% said they remember information better through SCL. This converse situation may not be unconnected with the fact that no sooner had SCL been introduced than the COVID-19 pandemic struck which resulted in the gradual slowing down and grounding of (SCL) instructional activities in the college. This is in addition to the known challenge of recalcitrant attitude towards change from the traditional TCL to SCL in the developing countries [15].

4.4 Instructional Strategies

More than half (52.2%) of the lecturers affirmed, that lecturers agreed they consult with students on the teaching methods adopted and 58.3% of them also agreed that they consider transparent procedures for students to provide their feedback on the quality of the educational process. In addition, consultation with students on the teaching approach showed significantly higher positive correlation ($r=.661$) with students consultation on curriculum content development. This again is consistent with the findings of Osman *et al* [11]. On the contrary, half (50.0%) of the lecturers disagreed that “the goals of the learning process are agreed upon between facilitators and the students and 45.9% stated they do not consult with students on curriculum content development. In addition, 39.1% were not in favour of consulting students to provide their evaluation of methods used. These findings appear to score the college low on these basic elements of SCL process which requires the student to play active role at every stage of the teaching and learning process [4].

Although all the lecturers exhibited high level of agreement to all the 10 items measured, over 80.0% affirmed that they provide multiple means of information sources to aid facilitate learning ($M=3.95$, $SD=0.9$), and the use of real-life problems to structure the learning delivery ($M=3.95$, $SD=1.1$). The findings reflect the efforts made by the management of the college to conduct a number of orientation workshops on SCL for all lecturers. The findings further aligns

with the basic principles of SCL in which the lecturer is considered to be more of a facilitator that provide guides and anchors teaching and learning process, while ensuring students takes greater responsibly for their own learning journey based motivation, participation, cooperation, support and or collaborative approach [5-8,16-17]. In addition, the adoption of SCL provides greater opportunity to help enhance deeper understanding of nursing and midwives concept as compared to teacher centered learning process in general.

4.5 Assessment

The adoption of various forms of assessment to facilitate student centered learning showed 86.3% of the lecturers affirm that assessment is an integral part of learning in their teaching practice while 73.9% agree that they assess students based on their ability to apply knowledge and 72.7% use the real-life situations in the assessment of students however only 43.5% use simulation of tasks in the assessment of students. This findings with other studies that concluded, assessment is part of learning process in which students are able to assess their own learning progress and adjust their learning activities [7,18]. Contrariwise, the use of peer-assessment as a method for student assessment was scored low, as 80.0% of the lecturers either strongly disagree, disagree or simply remained neutral on that statement. This could be explained by the fact that despite a good general outlook for SCL implementation, there are still a good deal of TCL vestiges that continues to remain until certain challenges are dealt with. However, scoring 6 out of the 7 items on SCL assessment component places the college of Nursing and Midwifery is considered to be on good pedestal for a better roll out of SCL pedagogy.

4.6 Learning Environment

Although all the 6 items of this SCL assessment component exhibited varying degrees of significant correlation among themselves, 5 yielded higher means (agreement). It was found that both lecturers and students agreed that students have access to appropriate research and study facilities on campus and information technology (IT) is used within the learning process while there is genuine interaction between facilitators and students. Promotion of student interaction among my students and classroom culture around cooperative,

collaborative, and supportive approach is higher considered among the student participants ($M=3.43$, $SD=1.0$). These findings reinforce some key SCL values that work to foster an engagement between students and lecturers and expand on nursing education characteristics expected to enhance learners' skills and knowledge [13]. However, there is strong negative feeling among students accessing digital research and study facilities outside of campus. The challenge around access to free digital material reflect the challenges faced by nursing in developing countries where there is limited access to online teaching and learning materials [4,9,10, 19].

4.7 Obstacles

Three major obstacles identified in this study include the inability of facilitators to cover their syllabus content, the lack of infrastructure to support full implementation of SCL as well as limited guidelines for SCL approach adaptation among facilitators. It is important that these challenges facing the implementation of this innovative pedagogy need addressing to help meet the need of educating nurses and midwives in the ever-evolving healthcare environment. These findings affirm earlier position by Anyanwu & Iwuamadi who asserts that low level of pedagogical understanding among educators, large class sizes, demands of the curriculum, assessment challenges, and challenges related to infrastructure, to issues that borders on electricity and internet connectivity constitute major obstacles to SCL implementation in Nigeria [9].

5. CONCLUSION AND RECOMMENDATION

It is evident, both students and lecturers of the college of Nursing and midwifery Gombe hold a positive impression about the introduction of SCL instructional strategy in the institution. Among the various SCL assessment criteria used, role of lecturers as facilitators and motivators is key, followed by role of students who should take responsibility for their own learning. These were however, perceived in the context of what specific learning outcomes, instructional strategies and assessment methods that might have been jointly agreed upon by both lecturers and students within the prevailing learning environment. A favourable and conducive learning environment is only achievable where

there is participatory, supportive, collaborative and cooperative working relationship between teachers and students and among peers. With about a half (51.4%) of the students disagreeing with the assertion that they can link information together better through SCL, leaves much to be desired on the state of SCL implementation in the college. However, most worrisome are three major obstacles identified in this study which include the inability of facilitators to cover their syllabus content using SCL approach, the lack of infrastructure to support full implementation of SCL as well as limited guidelines for SCL adaptation among facilitators. Hence, it is hereby recommended that management, policy makers and all stakeholders should prioritize intervention efforts along tackling the three identified obstacles.

DISCLAIMER

The products used for this research are commonly and predominantly used products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

ETHICAL APPROVAL

Permission to carry out this study was obtained from the management of College of Nursing and Midwifery Gombe (CoNMG). The research and ethics committee of CoNMG scrutinized, approved and gave clearance for the study.

CONSENT

Before recruitment into the study informed consents of study participants were secured. Identity of study participants and their data were kept anonymous and confidential.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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